Department of Defense

INSTRUCTION

NUMBER 3000.4

June 16, 1997

USD(A&T)

SUBJECT: Capabilities-Based Munitions Requirements (CBMR) Process

References: (a) DoD Instruction 4100.41, "Capabilities-Based Munitions Requirements (CBMR) Process," July 21, 1995 (hereby canceled)
(b) Secretary of Defense, "Defense Planning Guidance (DPG)," current edition
(c) Joint Pub 1-02, "The Department of Defense Dictionary of Military and Associated Terms," current edition
(d) DoD 4140.1-R, "DoD Materiel Management Regulation," January 1993 authorized by DoD Directive 4140.1, January 4, 1993

1. PURPOSE

This Instruction:

1.1. Replaces reference (a).

1.2. Under reference (b), implements policy, assigns responsibilities, and prescribes procedures for the CBMR process. That process guides the Military Departments in developing munitions procurement requirements, as stated in reference (b).

2. APPLICABILITY

This Instruction applies to the Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Defense Agencies, and the DoD Field Activities involved in munitions requirements development, subsequent procurement, and inventory management (hereafter referred to collectively as "the DoD Components").

3. DEFINITIONS

Terms used in this Instruction are defined in enclosure E1.

4. POLICY

It is DoD policy under DPG (reference (b)) that the Military Departments and U.S. Special Operations Command (USSOCOM), when applicable, establish munitions requirements to support acquisition programs that arm weapon systems and forces to perform to their designed military capability. Those requirements address the operational objectives of the Commanders in Chiefs (CINCs) of the Combatant Commands against potential threats, consider logistic capabilities, and retain applicable capability for residual readiness forces at the conclusion of any future major theater wars (MTW) and for strategic readiness forces. Those requirements shall be computed by the Military Departments and the USSOCOM using the CBMR process described in this Instruction and the implementing guidance, as stated in reference (b). The major components of the process are shown and described in enclosure E2.

5. RESPONSIBILITIES

5.1. The Under Secretary of Defense for Acquisition and Technology shall:

5.1.1. Be responsible for this Instruction and ensure that timelines in subsection 5.5., 5.6., and 5.7. are met.

5.1.2. Ensure coordination between outyear munitions requirements development and funded weapon systems procurements.

5.1.3. Develop, with the Director, Program Analysis and Evaluation (D,PA&E), Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, data requirements in the Program Objective Memorandum (POM) preparation instructions (PPI), to report and monitor munitions data besides that required by this Instruction, as applicable. Provide munitions data requirements and formats to the Services (enclosure E3), and distribute inputs to the D,PA&E, and the Chairman of the Joint Chiefs of Staff, on receipt from the Military Services.

5.1.4. Forward the CINC's phased threat distribution (PTD) to the Director, Ballistic Missile Defense Organization (BMDO) by September 8 of every calendar

year. The BMDO and the the Chairman of the Joint Chiefs of Staff's Joint Theater Air and Missile Defense Organization (JTAMDO), through the Joint Theater Air and Missile Defense (JTAMD) Integrated Product Team (IPT) process which includes Service and CINC representation, will develop interceptor inventory estimates from a JTAMD architectural perspective and provides the estimates to the Under Secretary of Defense for Acquisition and Technology (USD(A&T)) by October 15 of every calendar year. Copies will be provided to the Services, USSOCOM and CINCs for their consideration.

5.2. The Under Secretary of Defense for Policy shall:

5.2.1. In consultation with the Chairman of the Joint Chiefs of Staff, the Military Services, and the CINCs, develop policy guidance on munitions requirements in DPG (reference (b)).

5.2.2. Publish illustrative planning scenarios (IPS) as part of reference (b) to serve as the basis for outyear requirements development.

5.2.3. Specify critical guidelines, such as relevant theaters for consideration and conflict duration, that are necessary inputs into the CBMR process, as applicable.

5.3. The Under Secretary of Defense (Comptroller)/Chief Financial Officer shall ensure that the D,PA&E, shall:

5.3.1. Use CBMR terminology defined in enclosure E3 in drafting the PPI, and update CBMR submission schedules annually, if required, to reflect changes in the Planning, Programming, and Budgeting System (PPBS) cycle, as applicable.

5.3.2. Review Service POM munitions programs for: compliance with the reference (b), consistency with the CBMR process, and for program balance among munitions, force structure and modernization. Identify opportunities for developing or improving common methodologies and statistical values among the Services' requirements generation processes.

5.4. The Chairman of the Joint Chiefs of Staff shall:

5.4.1. Develop IPS with the Under Secretary of Defense for Policy (USD(P)).

5.4.2. Utilize the IPS forces in reference (b), with the expected capabilities identified by the Services, to validate and assess the PTDs and operational planning factors (OPFs) developed by the CINCs and provide them to the Services and the OSD,

as needed.

5.4.3. Assess the capability of the munitions programming requirements developed by the Services to support the CINCs' PTDs. To the maximum extent practical, ensure that there is compatibility between each effort. To aid in this compatibility, work with the Services to develop a common methodology to compute and report quantitative requirements for weapons systems and platforms.

5.4.4. Develop the numerical value of the strategic planning factors (SPFs) for each theater and provide them to the Services and the OSD as needed.

5.5. The Assistant Secretary of Defense for Command, Control, Communications, and Intelligence shall ensure that the Director of the Defense Intelligence Agency (DIA) shall:

5.5.1. Publish the Outyear Threat Report (OTR) in accordance with the requirements in enclosure E4, while using the IPS in the DPG (reference (b)). The coordinated report must be released by April 1 of every odd-numbered calendar year. That time-line is necessary to support development of the CINCs' PTDs and to identify requirements for the Service POMs. The time period covered in the OTR must extend to the end of the POM period.

5.5.2. Publish an update to the OTR by April 1 of every even-numbered calendar year.

5.5.3. Coordinate the report with each Service's Intelligence Office and with the Combatant Commands to ensure that both quantitative and qualitative aspects of threat doctrine and capabilities for each theater that may affect requirements development are included, and pass those planning considerations to the Services.

5.6. The Secretaries of the Military Departments and the Commander in Chief, Special Operations Command, shall:

5.6.1. Determine munitions procurement requirements in accordance with reference (b).

5.6.2. Provide munitions data, in accordance with the formats located in enclosure E3 to the USD(A&T), by May 15 of each year, for use in evaluating POM munitions procurement requirements. Submit a detailed description of the methodology used to compute those requirements. When practical, use common methodologies and values (e.g.; probability of kill (P_k) and probability of munitions effectiveness (P_{me}),

etc.,), when computing requirements for munitions delivered by similar weapon systems and delivery platforms.

5.6.3. Within 60 days after publication of the reference (b), provide input to the Chairman of the Joint Chiefs of Staff on expected new capabilities of the IPS forces in reference (b).

5.6.4. Ensure that the Commanders of the Combatant Commands are provided, through the Chairman of the Joint Chiefs of Staff, with munitions procurement requirements computations for the theater once the process is complete.

5.6.5. Seek compatibility between the CINCs' combat requirements (near-term) and the procurement plans (mid-term).

5.7. The Commanders of the Combatant Commands shall:

5.7.1. Assist in determining munitions requirements. Using the format in enclosure E5, by July 1 of every odd-numbered calendar year, develop a PTD using the concept of operations for the theater, considering the tasking of the Joint Strategic Capabilities Plan (JSCP), the DIA OTR, the IPS in reference (b), etc., that shall be validated by the Chairman of the Joint Chiefs of Staff, before its release to the Services on September 1 of every odd-numbered calendar year.

5.7.2. Provide to the Chairman of the Joint Chiefs of Staff, an update to the PTD by July 1 of every even-numbered calendar year.

5.7.3. Determine the OPF for their theaters that may affect munitions requirements development. Planning factors shall be passed, together with the PTDs, to the Chairman of the Joint Chiefs of Staff for consideration in modeling and requirements assessment.

5.7.4. When submitting the PTDs, identify unique munitions requirements or perspectives to the applicable Service and to the Chairman of the Joint Chiefs of Staff.

5.7.5. Along with the PTDs, identify any additional training requirements during the POM period that will affect the munitions procurements developed by the Military Services and the USSOCOM.

5.7.6. Coordinate with the DIA to exchange critical qualitative considerations on threat doctrine and capabilities for the theater that may affect requirements development.

5.7.7. With the USD(P) and the Chairman of the Joint Chiefs of Staff, identify post-MTW theater missions and force requirements in the PTDs to the Services and the USSOCOM to assist in developing the residual readiness requirement (RRR).

5.7.8. Review the Services' and the USSOCOM's munitions requirements generated by the CBMR process. Identify issues to be resolved during the planning and programing process to the Chairman of the Joint Chiefs of Staff, the Services, and the USSOCOM.

6. PROCEDURES

6.1. The DIA's OTR shall be the threat estimate for the DPG-specified (reference (b)) scenarios used in munitions requirements development.

6.2. The Military Departments and the USSOCOM shall:

6.2.1. Determine the total combat requirements by scenario, as specified in the reference (b), considering wartime consumption and the policy to arm committed forces to their designed military capability. The term "designed military capability" is intended to mean that the fielded force (or fleet) may execute its operational mission with all weapons without undue risk; it is not intended to mean that every system must be filled to design capacity unless warranted by the threat or the nature of the operational requirements.

6.2.2. Base calculation of combat requirements on the CINCs' PTDs, using DIA's OTR as the authoritative threat estimate to evaluate wartime consumption. Include combat requirements for specific capability, as necessary, to support normal deployment plans, even if there is no specific threat distributed to that Service applicable to that weapon. Consider the size of the fielded force, impact of logistics, approved modernization plans, OPF, and SPF in determining final combat requirements. Additionally, identify the total number of targets killed by type and munition(s) employed (including the total number) for each MTW, using the DIA target type II categories and the formats contained in enclosure E3. The total combat requirements are the sum of the DPG-specified MTW(s) in reference (b).

6.2.3. Determine the RRR to provide a combat capability for all previously committed forces after the DPG-directed scenarios in reference (b) have terminated. It must be consistent with objectives and policies stated in the reference (b) and consider

possible post-MTW missions and operations identified by the CINCs. Computation of the RRR should be tied to the development of capability-driven combat requirements that provide operational capability or flexibility, and, when possible, should be offset by munitions remaining at the conclusion of the scenarios. The intent is to preserve a designed military capability at the force level, and does not imply that RRR should be based on filling all systems to design capacity, unless warranted by the threat or the nature of the operational requirements.

6.2.4. Determine strategic readiness requirement for forces not committed to the DPG-specified scenarios in reference (b), whether forward deployed, in the continental United States (CONUS), or whether contained in the Active or Reserve components.

6.2.5. Sum the combat requirement, strategic readiness requirement, and RRR as the war reserve munitions requirement.

6.2.6. Develop training, testing, and current operational requirement (TTCOR) for each year in the POM period and/or life cycle, as applicable.

6.2.7. Sum the war reserve munitions requirements and the TTCOR as the total munitions requirements.

6.3. The Commanders of the Combatant Commands shall:

6.3.1. Base calculation of the PTD on the war-fighting concept of operations for the theater, considering the tasking of the JSCP, the DIA OTR, the IPS in reference (b), etc. The PTD should be based on the war-fighting requirements analysis projected to the last year of the future years defense plan (FYDP). Identify the last year used in this analysis, along with any assumptions used.

6.4. The BMDO and the JTAMDO shall develop interceptor inventory estimates for Theater Air and Missile Defense (TAMD) architecture using a JTAMD IPT process. Estimates shall be based upon the most current OTR; however, other current threat documents, e.g., Ballistic Missile Defense capstone system threat assessment report, can be used for assessing inventory estimates beyond the year specified in the OTR. Estimates will reflect contributions of systems planned for TAMD in the years corresponding to the OTR and extended planning years.

7. EFFECTIVE DATE

This Instruction is effective immediately.

Under Secretary of Defense
for Acquisition and Technology

Enclosures - 5

1. Definitions
2. The CBMR Process
3. Figure E3.F1. "Combat Munitions Data Formats" and Figure E3.F2. "Total Munitions Data Formats"
4. OTR Requirements
5. Figure E5.F1. "CINC's PTD Format" and Figure E5.F2. "CINC's Operation Plan Phases"

E1. ENCLOSURE 1

DEFINITIONS [1]

E1.1.1. Capability. See definition E1.1.8., below, military capability.

E1.1.2. Combat Load. The standard quantity and type of munitions carried by a weapons platform and/or its dedicated support vehicle.

E1.1.3. Concept of the Operation. A CINC's description of the desired flow of a campaign plan including theater objectives, major attacks, deception operations, logistics, command and control, and war termination conditions.

E1.1.4. Days of Supply. A unit or quantity of supplies adopted as a standard of measurement, used in estimating the average daily expenditure under stated conditions. It may also be expressed in terms of a factor; e.g., rounds of ammunition for each weapon for each day.

E1.1.5. Expected Daily Consumption. The mean daily consumption for each shooter at a given intensity level.

E1.1.6. Infrastructure. Fixed and permanent installations, fabrications, or facilities for the support and control of military forces.

E1.1.7. Inventory Objective. The Service stockpile goal for the outyear period that is used to reflect the Services' procurement objectives.

E1.1.8. Military Capability. The ability to achieve a specified wartime objective; e.g., win a war or battle and destroy a target set. It includes force structure, modernization, readiness, and sustainability.

E1.1.8.1. Designed Military Capability. The ability for all elements and systems of a force to perform their designed roles and functions without unwarranted operational constraint or risk. That definition applies at the force level and is distinct from the design capacity of the systems comprising the force. The munitions required to provide the designed military capability of a force may be greater than or less than the total required to fill the design capacity of its systems, depending on threat, operations, and logistics.

[1] Definitions are derived from Joint Pub 1-02 reference (c), unless specifically defined for the CBMR process.

E1.1.8.2. Force Structure. Numbers, size, and composition of the units that comprise DoD forces; e.g., divisions, ships, and air wings.

E1.1.8.3. Readiness. The ability of forces, units, weapons systems, or equipment to deliver the output for which they were designed (includes the ability to deploy and employ without unacceptable delays).

E1.1.8.4. Sustainability. The ability to maintain the necessary level and duration of operational activity to achieve military objectives. A function of providing for and maintaining those levels of ready forces, materiel, and consumables necessary to support the military effort.

E1.1.9. Military Objective. The derived set of military actions to implement National Command Authorities guidance in support of National objectives. Defines the results to be achieved by the Military and assigns tasks to commanders.

E1.1.10. Modernization. Programed improvements in the capabilities of forces, particularly equipment, by improving either the P_k, P_{me}, inherent in a weapon, or the probability of survival of the platform (P_s) that launches the weapon. Also encompasses gains made by leveraging enhancements in logistical effectiveness; i.e., wooden rounds, longer shelf and/or service life, and manpower intensity.

E1.1.11. Munitions. Ammunition or ordnance, including, but not limited to, rockets, missiles, projectiles, and bombs required by a given force structure to neutralize a threat.

E1.1.11.1. Level-of-Effort Munitions. Those items that are stocked on the basis of expected daily expenditure rate, the number of days of combat, and an assumed attrition rate to counter targets, the number of which is unknown, and/or to maintain an anticipated level of combat.

E1.1.11.2. Preferred Munitions. Those munitions, whether threat-oriented or level of effort that provide the desired $P_k$against a given target type, or those that significantly improve the P_s against the projected threat, as determined by the warfighter.

E1.1.11.3. Substitute Munitions. Alternative munitions retained in the inventory to make up for insufficient stocks of preferred munitions, as determined by the warfighter. These alternative munitions are not used in determining projected inventory requirements of preferred munitions, but are considered as a potential

trade-off factor in determining procurement objective of preferred munitions.

E1.1.11.4. Threat-Oriented Munitions. Those that are intended to neutralize a finite assessed threat and for which the total requirement is determined by an agreed on mathematical model.

E1.1.12. Operational Planning Factors (OPFs). Factors that are particular to a specific theater that may affect intratheater distribution of munitions; e.g., infrastructure development, host-nation support, terrain, weather, and culture.

E1.1.13. Overlap. The concept of deliberately planning for reasonably duplicating some target coverage to enable the defeat of an unexpected disposition of enemy forces; applicable both between DoD Components that support a CINC and within DoD components.

E1.1.14. Outyear Threat Report (OTR). A collection of quantitative and qualitative assumptions, estimates, and facts about the threat that will face U.S. and allied forces in the given DPG-specified scenarios in reference (b) during the outyear period. The report presents the DIA's estimate of enemy capabilities in three levels of detail ranging from type and numbers of weapons to an analysis of expected trends in modernization of weaponry and force structure.

E1.1.15. Phased Threat Distribution (PTDs). The CINC's phased assignment of a portion of the enemy's total combat capability (i.e., forces, installations, and organizations) to DOD Component commands. The distribution is a percentage by type of target (e.g., tanks and fighters) by operation plan phases.

E1.1.16. Procurement Objectives. Quantities of munitions for acquisition derived by the Services from consideration of both total munitions requirements and projected inventory and tempered by monetary and industrial constraints.

E1.1.17. Projected Inventory. The Service stockpile on-hand quantity of a type of munitions, adjusted for anticipated gains and losses prior to the beginning of the POM (i.e., for the 98-03 POM that would be the end of fiscal year (FY) 95 adjusted for gains and losses in FY96 and FY97).

E1.1.18. Requirements

E1.1.18.1. Combat Requirements. The quantity of munitions required to equip a specified force structure to its designed military capability and to meet CINC requirements for decisive defeat of the enemy. That includes munitions needed for

operational flexibility during the conflict.

E1.1.18.2. Residual Readiness Requirement (RRR). Munitions necessary to provide a post-MTW combat capability for forces committed to the DPG-specified scenarios in reference (b). Combat requirements include munitions needed for operational flexibility and some of those munitions may remain at the conclusion of the scenarios, then the RRR should be decreased by the amount remaining. Otherwise, the RRR is additional.

E1.1.18.3. Strategic Readiness Requirement. The quantity of munitions needed to arm forces not committed to support combat operations in the assigned MTW. It also includes any additional munitions requirements to meet treaty or statutory obligations to allies.

E1.1.18.4. Total Munitions Requirements. The sum of war reserve munitions requirements, and TTCOR. The total munitions requirements is equivalent to the approved acquisition objective as defined in reference (d).

E1.1.18.5. Training, Testing, and Current Operational Requirement (TTCOR). Munitions requirements to train the force and to support Service programs ensuring that weapons and platforms deliver the intended effectiveness. Surveillance testing of munitions items is accounted for in that block. Current operational requirement encompasses peacetime operational requirements (i.e., natural disasters, riot control, saluting rounds, and explosive ordnance disposal operations and operations other than war) and deployed force requirements in excess of the assigned conflicts' requirements.

E1.1.18.6. War Reserve Munitions Requirements. The sum of combat requirements, RRR, and strategic readiness requirements.

E1.1.19. Residual Forces. The remaining U.S. Forces that have an immediate combat potential for continued military operations or that have been deliberately withheld from utilization.

E1.1.20. Strategic Planning Factors (SPFs). Factors that are not particular to a specific region that may effect intertheater distribution; e.g., en route weather, use of locks and canals, and attrition of shipping.

E1.1.21. War Reserves. Stocks of materiel amassed in peacetime to meet the increase in military requirements consequent to an outbreak of war. War reserves are intended to provide the interim support essential to sustain operations until resupply

may be effected. (In the MTW context, war reserves are determined to provide sufficient quantities of munitions to defeat the enemy as the conflict will probably terminate before a significant industrial base contribution. However, that does not negate the need to keep a warm industrial base in select munitions lines to fulfill a procurement requirement based on operational necessity.)

E2. ENCLOSURE 2

THE CBMR PROCESS

E2.1.1. Fundamental Concepts for the CBMR process are, as follows:

E2.1.1.1. The DPG (reference (b)) directs implementation of that process.

E2.1.1.2. The CBMR process allows military planners to base munitions requirements on the following two concepts:

E2.1.1.2.1. A given force structure, armed to its designed military capability.

E2.1.1.2.2. The estimated quantity of munitions to defeat a specified threat with that force structure.

E2.1.1.3. Those concepts are consistent with the national military strategy of flexible and selective engagement to protect U.S. interests throughout the world and to help meet the security needs of U.S. partners in key regions. That strategy requires a ready U.S. military force capable of responding quickly and decisively to protect U.S. security. The CBMR process addresses several key issues, as follows:

E2.1.1.3.1. Involves the CINCs early in the process and ensures operational flexibility in their theaters.

E2.1.1.3.2. Establishes a common estimate of outyear enemy capabilities.

E2.1.1.3.3. Offers a common architecture to describe munitions requirements.

E2.1.1.3.4. Recognizes Service-unique perspectives.

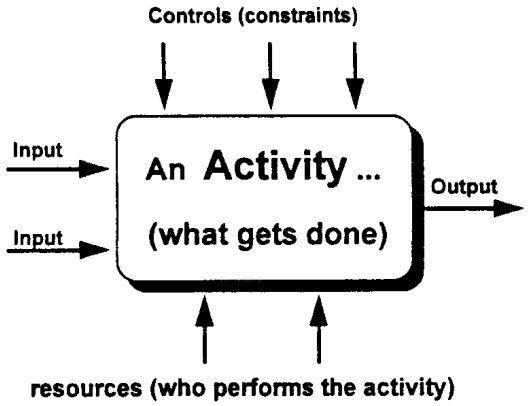
E2.1.1.3.5. Helps readiness and sustainability of a decisive force.

E2.1.1.3.6. Ensures coordination among the CINCs', Chairman of the Joint Chiefs of Staff's, and Services' perspectives on requirements.

E2.1.1.4. Sections E2.1.1.5. through E2.1.1.29., below, describe the CBMR

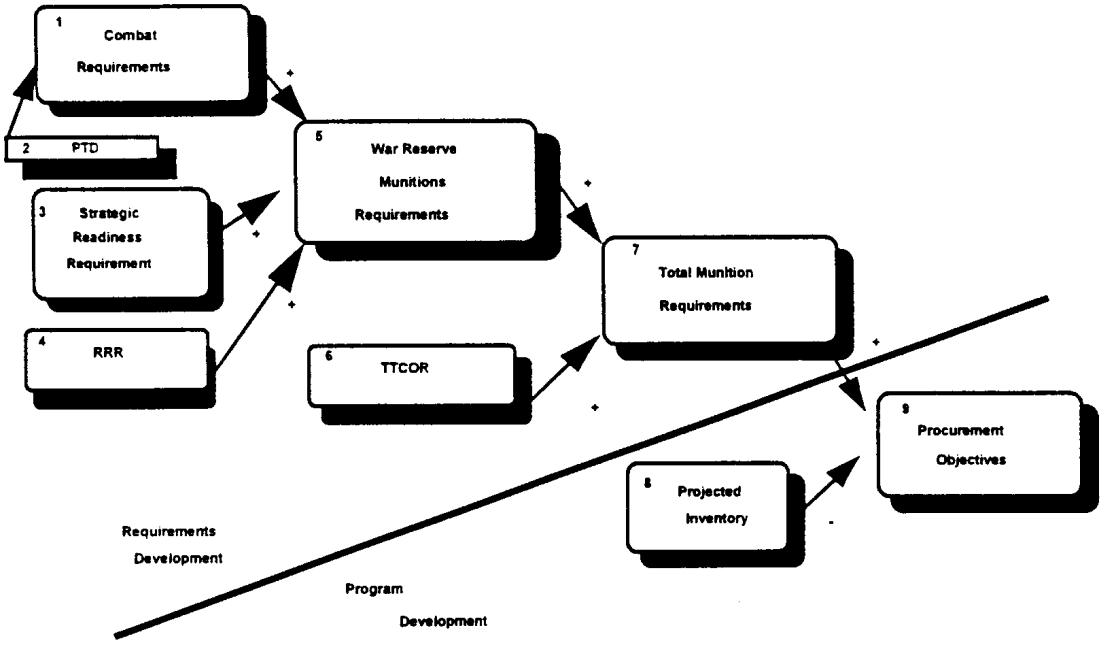
process in detail. Figure E2.F1., below, is a modified integration definition for function modeling (IDEFO) for the following blocks in this enclosure. The output for each block shall be the Service's requirement for each specified munition for the block.

FIGURE E2.F1. IDEFO



E2.1.1.5. In figure E2.F1., above, the block represents an activity that must be performed. Inputs to the activity enter from the left. Controls or constraints on the activity enter from the top of the block. The Agency that performs or influences the activity is shown below the block while outputs leave the block to the right.

FIGURE E2.F2. THE CBMR PROCESS



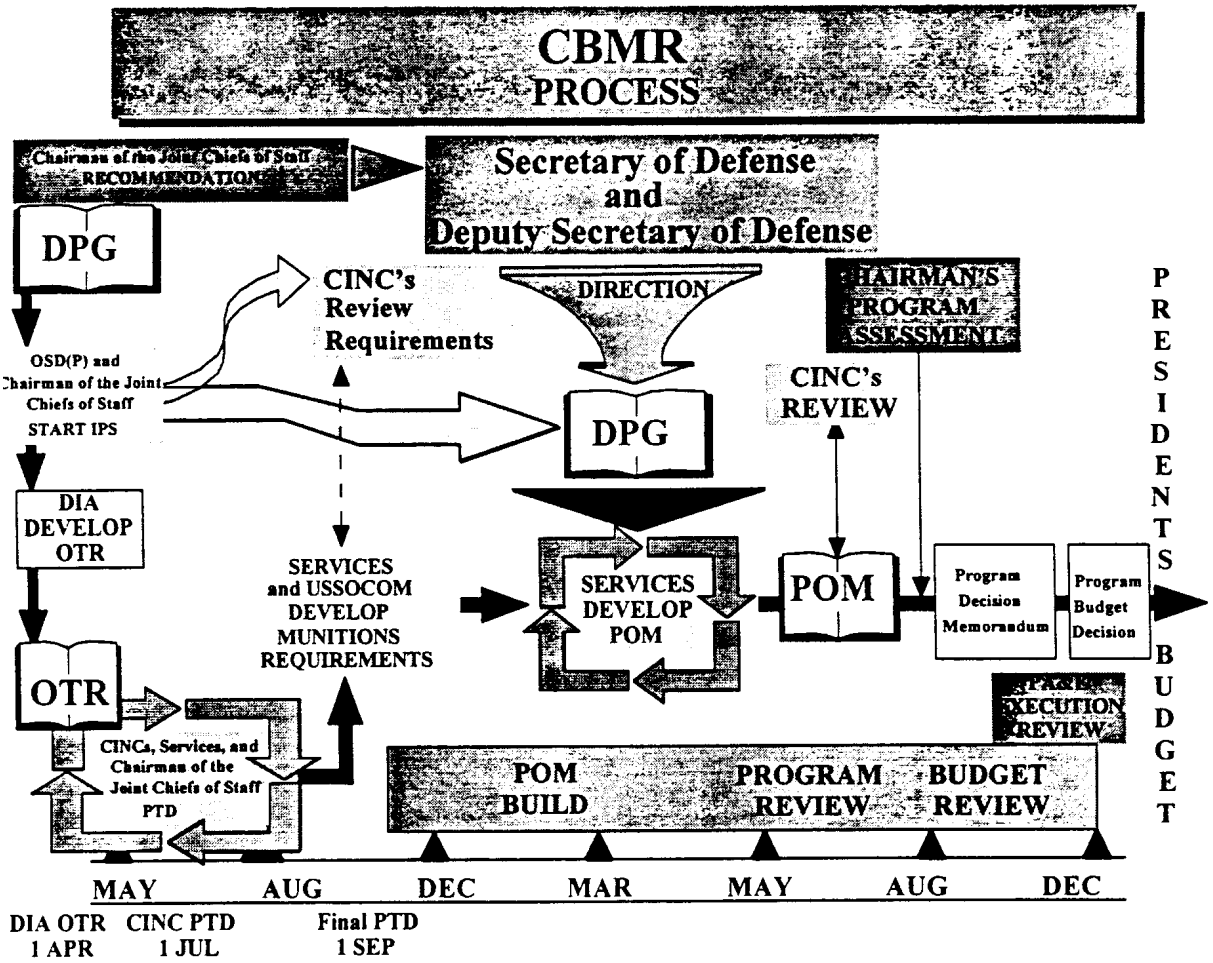
E2.1.1.6. The overall CBMR process is described with activity blocks 1

through 9 shown in figure E2.F2., above. Each block is explained separately and in detail in the following sections and figures in this enclosure. Requirements development are not to be constrained by anticipated funding limitations.

E2.1.1.7. Numbers are shown in the upper left corner of block 1 through 9 in figure E2.F2., above, to assist clarity. Blocks 1 through 7 concern requirements development; blocks 8 and 9 link the process to program development.

E2.1.1.8. In block 1 of figure E2.F2., above, "combat requirements," represent the computation of the munitions required to support MTW. That is used by the Services for consideration in the development of procurement requirements.

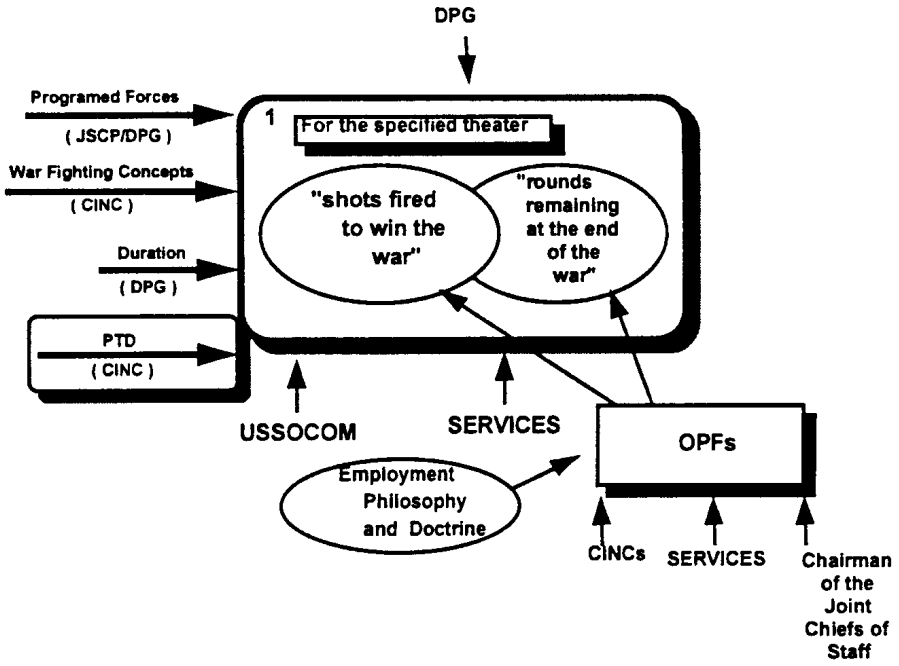
FIGURE E2.F3. CBMR PROCESS IN THE PLANNING, PROGRAMING, AND BUDGETING SYSTEM (PPBS)



E2.1.1.9. A more detailed CBMR process is described in figure E2.F3., above, showing the various activities in the PPBS.

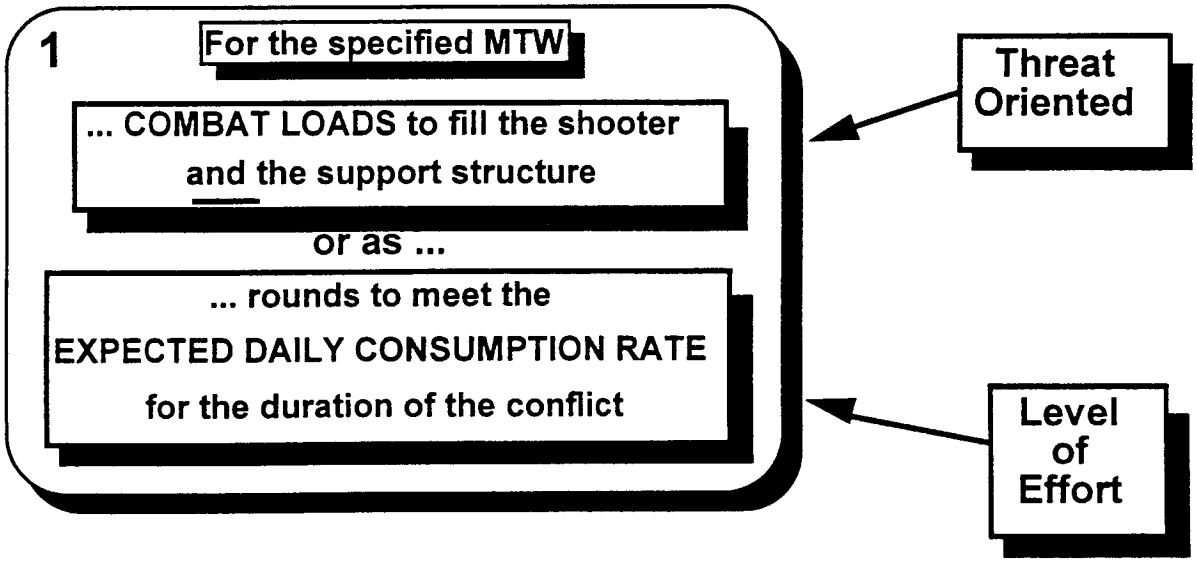
E2.1.1.10. The Services and the USSOCOM determine combat requirements based on the inputs shown in figure E2.F4., below. The two major components are shots fired to win the war and rounds remaining at the end of the war. That is based on the notional allocation specified by the IPS.

FIGURE E2.F4. COMBAT REQUIREMENTS



E2.1.1.11. Munitions requirements in the theater may be determined either by a threat-oriented (combat loads for each shooter) or by a level-of-effort (expected daily consumption rates) methodology, as indicated in figure E2.F5., below. Requirements are determined independently for each theater. That is commensurate with war reserve inventory policy.

FIGURE E2.F5. COMBAT REQUIREMENTS AND ACCEPTABLE UNITS OF MEASURE

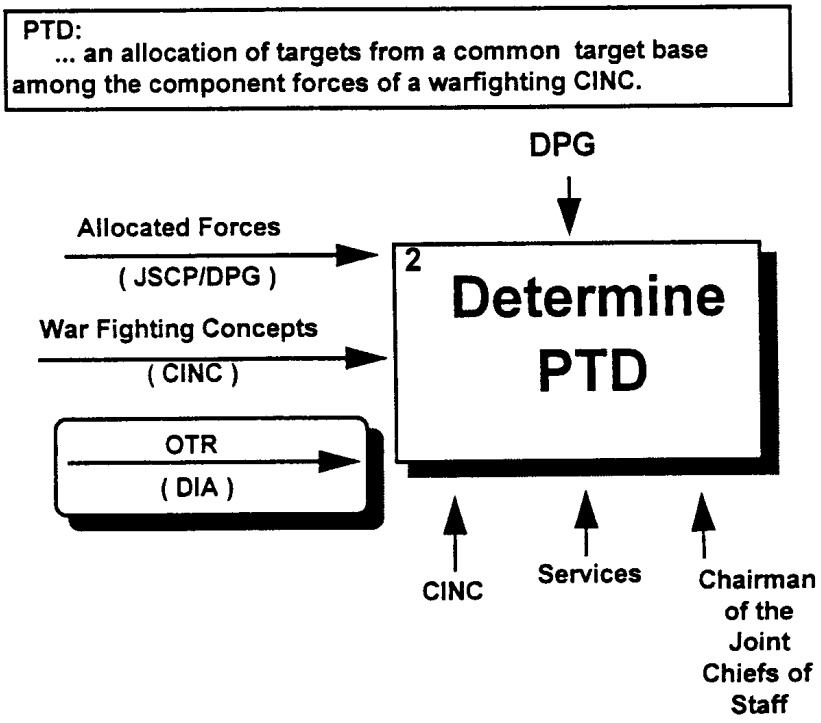


E2.1.1.12. The Services and the USSOCOM use the programed weapon systems modernization, as outlined in the DPG (reference (b)) for munitions calculations. That provision incorporates changes in the force structure to ensure that sufficient munitions requirements are identified for each MTW.

E2.1.1.13. Conflict duration is specified in the reference (b).

E2.1.1.14. The CINC's PTD, (block 2, figure E2.F6., below) assigns a share of the threat target base to each supporting component, allowing for reasonable overlap between Services to ensure operational flexibility. The CINC establishes the PTD by applying the CINC war-fighting concept of operations, taking into account the JSCP, the DIA OTR, the IPS force allocation from the reference (b), and any known changes to structure or capability of the programed force. The PTD is then validated and assessed by the Chairman of the Joint Chiefs of Staff before being provided to the Services for use in determining munitions requirements.

FIGURE E2.F6. THE CINC'S PTD



E2.1.1.15. OPFs describe the friction and special considerations for a particular theater, such as intratheater transportation infrastructure. Another example is the need to increase requirements when the undisrupted use of deep water ports may not be guaranteed during force arrivals and sustainment. OPFs are affected by Service doctrine, also called "employment philosophy." How forces fight, unilaterally, jointly, or as combined forces, is a primary consideration as the CINC determines operational objectives for the theater.

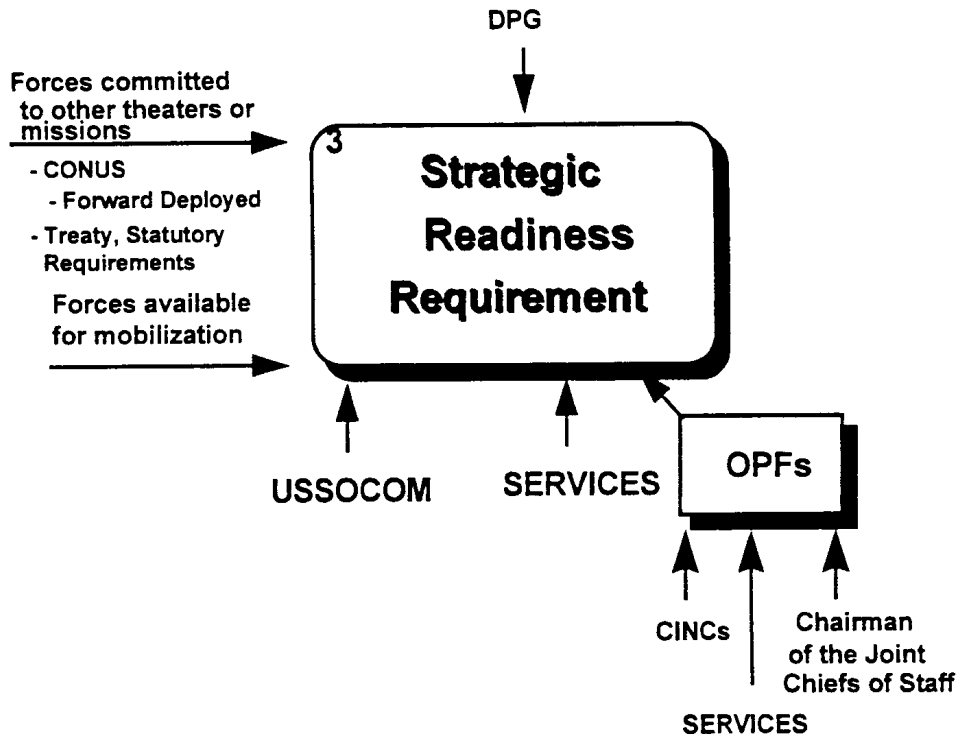
E2.1.1.16. SPFs allow joint planners to adjust requirements based on assumptions for intertheater or strategic transportation. The SPFs are applied as a mixed number multiplier to the combat requirements block. The current value of the SPFs is 1.0 because allied nations enjoy secure lines of communication. SPFs are determined by the Chairman of the Joint Chiefs of Staff in cooperation with U.S. Transportation Command and the Services.

E2.1.1.17. A sample of the PTD format, as furnished to the Chairman of the Joint Chiefs of Staff and Services, is shown in enclosure E5.

E2.1.1.18. Strategic readiness requirement (block 3, Figure E2.F7.,below) addresses munitions that are needed for forces not apportioned in the IPSs. Those

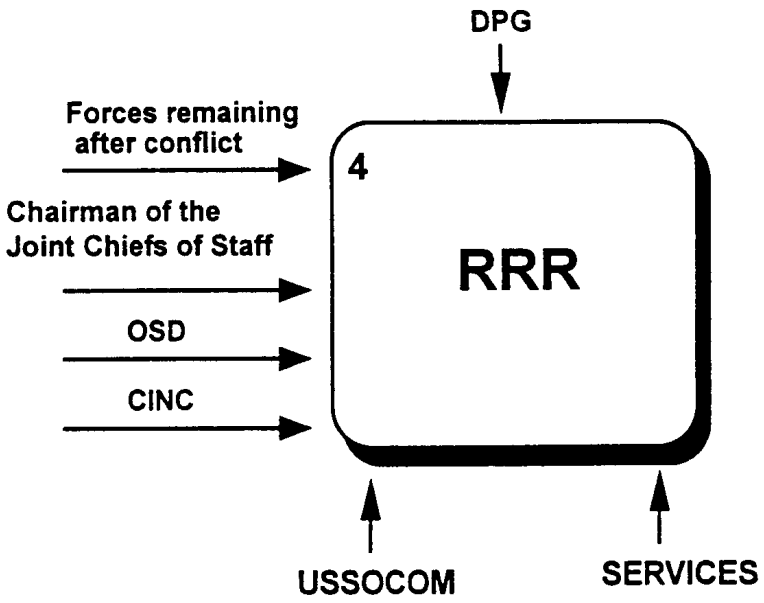
could be forward deployed, reserve, or other forces available for mobilization. That requirement may not have a regional focus; the OPFs and SPFs may not necessarily be the same as those used in developing combat requirements.

FIGURE E2.F7. STRATEGIC READINESS REQUIREMENT



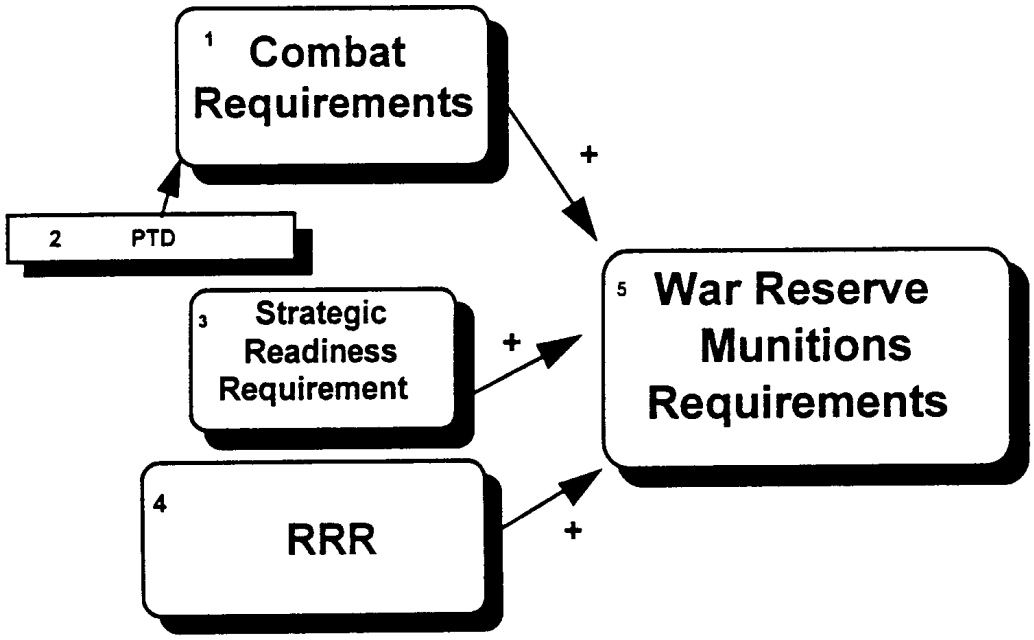
E2.1.1.19. Services compute RRR (block 4, figure E2.F8, below) to ensure residual forces retain sufficient munitions for a minimum combat capability after conflict termination.

FIGURE E2.F8. RRR



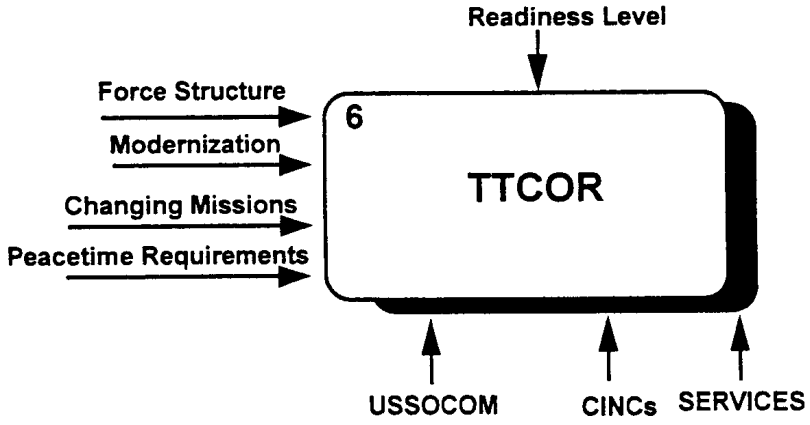
E2.1.1.20. War reserve munitions requirements (block 5, figure E2.F9, below) is the total of combat requirements, strategic readiness requirements, and RRR. When combat requirements are capability-driven (i.e., to maintain operational flexibility the combat requirements exceed the expected wartime consumption in the DPG-specified planning scenarios in reference (b)), the rounds remaining at the end of the war shall be used as an offset to the RRR.

FIGURE E2.F9. WAR RESERVE MUNITIONS REQUIREMENTS



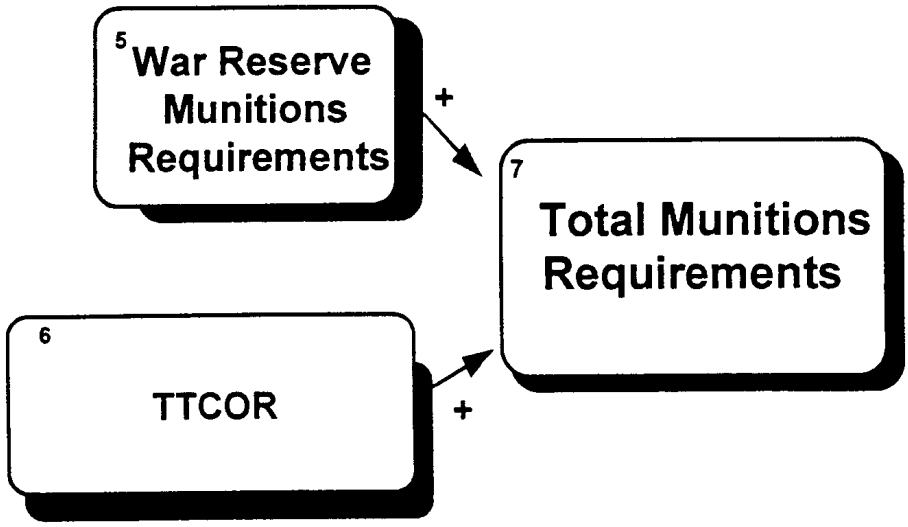
E2.1.1.21. TTCOR (block 6, figure E2.F10., below) is used in part by the Services and the USSOCOM to account for the requirements to support the greatest annual consumption of munitions- training. Annual training requirements are driven by the readiness level desired by the Chief of each Service and the USSOCOM and may be influenced by additional requirements levied by the supported CINCs. Changes in force structure, mission, and modernization are the considerations in supporting outyear training. Testing of weapons systems continues after initial development and production for several reasons including shelf-life extensions, reliability, maintenance, product improvements, and inventory rotation. Current operational requirements include requirements to support peacetime requirements such as explosive ordnance disposal, humanitarian assistance, riot control, security operations, and operational projects.

FIGURE E2.F10. TTCOR



E2.1.1.22. The total munitions requirements (block 7, figure E2.F11., below) is the total of war reserve munitions requirements and TTCOR.

FIGURE E2.F11. TOTAL MUNITIONS REQUIREMENTS



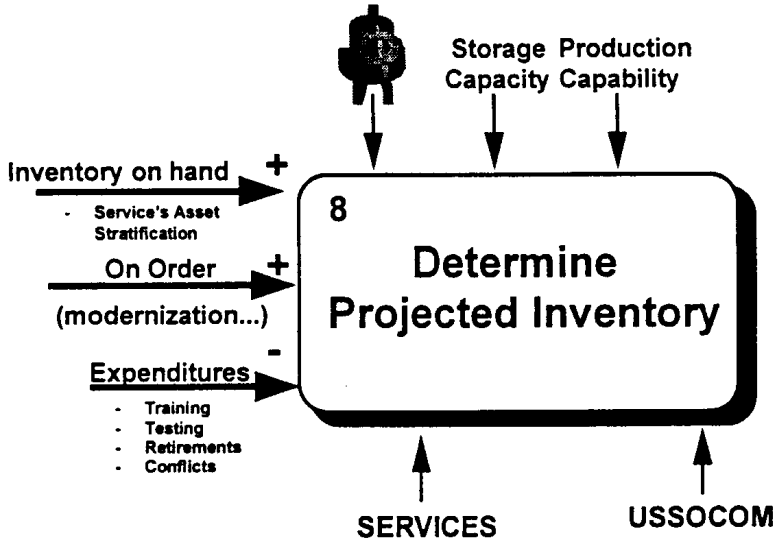
E2.1.1.23. The linkage between requirements development and program development begins with figures E2.F12. and E2.F13, below. The requirements generation process addressed to that point was not constrained by funding limitations. Program development is constrained by affordability.

E2.1.1.24. Determine projected inventory (block 8, figure E2.F12.,below). The Services manage munitions inventories by examining on-hand stockpiles and the asset stratification accounts. Gains include munitions that are on order or in production for delivery in the POM period. Losses include planned expenditures such

as training, testing, and retirement of obsolete weapons. That includes allowances for unplanned expenditures, such as retirement due to lack of reliability found during scheduled testing, routine training and military operations other than war, such as forced evacuation of an embassy.

E2.1.1.25. Constraints on projected inventories may be the capacity and costs associated with storage and maintenance. Available production capability may also constrain the rate that munitions may be added to the inventory.

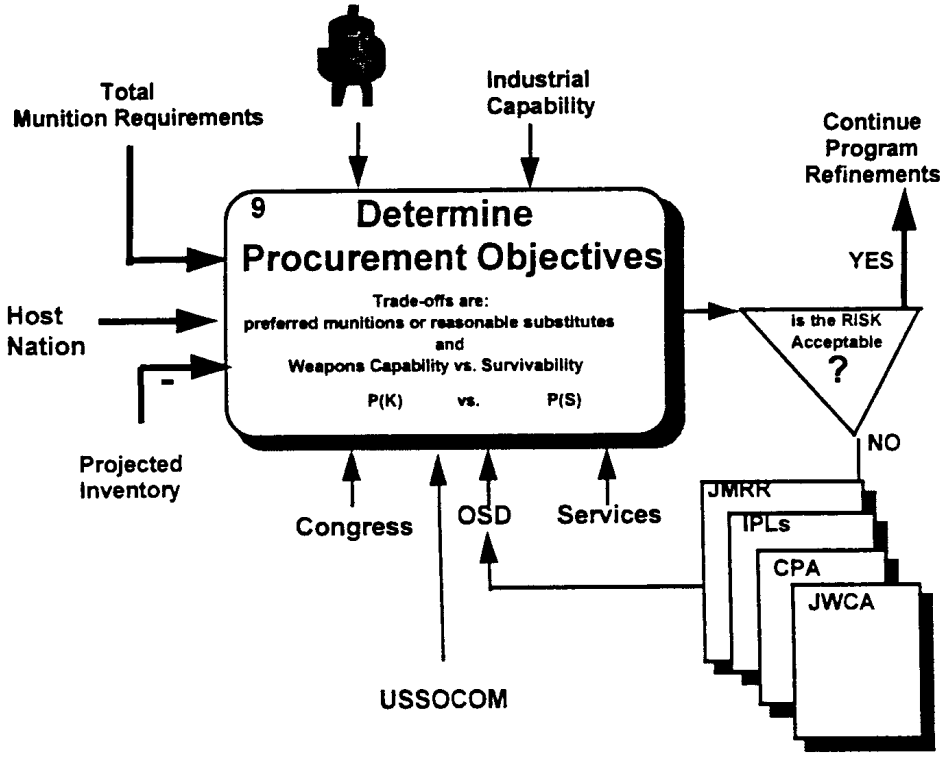
FIGURE E2.F12. PROJECTED INVENTORY



E2.1.1.26. Determine procurement objectives (block 9, figure E2.F13, below). That activity consumes extraordinary effort and resources during program development. The Services and the USSOCOM must balance total munitions requirement, projected inventory, and affordability. Host-nation support must also be factored in where known and where it has been committed to by the applicable parties.

E2.1.1.27. Constraints to procurement objectives are funding and industrial capability. Industrial capability may be limited by manufacturing technology, capacity, or availability of suppliers for critical components. That is a growing concern with the shrinking of the military industrial base, particularly the second- and third-tier suppliers of munitions subcomponents.

FIGURE E2.F13. PROCUREMENT OBJECTIVES



E2.1.1.28. Services carefully consider the trade-off in modernizing weapon stockpiles with preferred munitions. The cost of seemingly expensive munitions may be lessened if the operator survives and preserves an increasingly expensive platform.

E2.1.1.29. Risk assessment necessarily follows the estimates of affordable procurement objectives. The Joint Military Readiness Review (JMRR), the Integrated Priorities List (IPL), and the Joint Warfare Capabilities Assessment (JWCA) are all processes that integrate CINC, Chairman of the Joint Chiefs of Staff, and Service requirements. The JMRR identifies near-term readiness issues, some of which have programmatic implications, while the CINC's IPLs represent the top priorities for Service action. The JWCAs provide a joint forum to identify and prioritize key programmatic decisions through Joint Requirements Oversight Council, and the Chairman's Program Assessment (CPA) outlines the Chairman of the Joint Chiefs of Staff's view on the compliance of the Service programs with the DPG (reference (b)), CINC priorities, and other strategic issues.

E3. ENCLOSURE 3

"COMBAT MUNITIONS DATA FORMATS" AND "TOTAL MUNITIONS DATA FORMATS

FIGURE E3.F1. COMBAT MUNITIONS DATA FORMAT

MUNITIONS EXPENDITURES BY TARGET CATEGORY OF OTR							
Column 1	2	3	4	5	6	7	8
	(** This data should be provided in a spreadsheet. Excel is preferred **)						
Service; e.g., Army							
Target Type[1]	Munitions			Munitions			
(per OTR)							
e.g. MANEUVER							
		Projected Kills[3]	Projected Consumption[4]		Projected Kills[3]	Projected Consumption[4]	Total Projected Consumption
e.g. Tanks	MTW-East: Portion to defeat: #[2]			MTW-West: Portion to defeat: #[2]			
	155mm Howitzer			155mm Howitzer			
	155mm M898			155mm M898			
	ABRAMS TANK			ABRAMS TANK			
	120mm M829A2			120mm M829A2			
	Helicopters			Helicopter			
	Laser Hellfire \B			Laser Hellfire \B			
	Longbow Hellfire \B			Longbow Hellfire \B			
	Javelin			Javelin			
	Javelin \B			Javelin \B			
	etc			etc			
	Total			Total			
e.g. AFVs	MTW-East: Portion to defeat: #[2]			MTW-West: Portion to defeat: #[2]			
	155mm Howitzer			155mm Howitzer			
	155mm XM982			155mm XM982			
	Fuze Multi Option			Fuze Multi Option			
	Fuze Multi Option			Fuze Multi Option			
	Wide Area Munitions			Wide Area Munitions			
	Wide Area Munitions			Wide Area Munitions			
	etc			etc			
	Total			Total			
etc.							

[1] Information should be reported for each target category listed in enclosure 5. All munitions need be reported for each target category.

[2] Total service apportionment should correspond to CINCs' PTD. Do not report targets for which there is no Service apportionment.

[3] The number of targets killed by munition type in columns 2 and 5.

[4] The total munitions consumed to achieve the number of projected kills by munition type.

FIGURE E3.F2. TOTAL MUNITIONS DATA FORMAT

MUNITIONS REQUIREMENTS								
Column 1	2a	2b	3	4	5	6	7a	7b
Weapons/Munition	Combat Requirement[1]		RRR[2]	Strategic Readiness	TTCOR[2]	Total Munitions	War Reserve Inventory	
	for: MTW-East	for: MTW-West		Requirement[2]		Requirement[2]	current year	last year of FYDP
(Army Example)								
155mm Howitzer								
155mm M898								
155mm XM982								
ABRAMS TANK								
120mm M829A2								
HELICOPTERS								
Laser Hellfire \B								
Longbow Hellfire \B								
Javelin								
Javelin \B								
etc								
Total								
(Air Force Example)								
SPARROW								
SIDEWINDER								
MAVERICK								
HARPOON								
etc								
Total								
(NAVY Example)								
5"/54								
MAVERICK								
GATOR								
SIDEWINDER								
etc								
Total								
(Marine Corps Example)								
Javelin								
Javelin \B								
etc								
Total								
	[1] These represents the total munitions brought to the conflicts (number may exceed CINC distribution).							
	[2] Enclosure 1, definition 18.							
	[3] Provide a detailed explanation of assumptions used in deriving requirements in columns 2 through 6.							

E4. ENCLOSURE 4

OTR REQUIREMENTS

E4.1.1. IPS shall be in sufficient detail to help analysis of force closures, theater and strategic mobility, and logistics supportability. Critical elements are the military objectives, friendly and enemy forces, warning times, assumptions used in strategic deployment, and duration of each phase of the contingency.

E4.1.2. The OTR for each specified region shall contain three levels of detail (called "tiers") with the enemy targets grouped into five categories and will be based on the same threat, as determined in the IPS. The quantity of targets reported in each category will reflect the total target population assessed to be available for attack.

E4.1.2.1. The level of detail in the three tiers offers appropriate information for use by individuals ranging from high-level decisionmakers to planners and targeting teams.

E4.1.2.1.1. Tier 1, "By Major Unit," contains the greatest amount of aggregation and, therefore, the lowest resolution of the information. It is intended for senior-level decisionmakers who need a strategic-level perspective on the enemy forces and capabilities.

E4.1.2.1.2. Tier 2, "By Target Type," contains the least aggregation and the highest level of detail complete with location of fixed targets. That tier is suitable for target planners and analysts who must determine the applicable type and number of munitions to destroy the targets.

E4.1.2.1.3. Tier 3, "Trends and Special Information," presents a conceptual discussion of trends and other facts about that theater. It provides an opportunity for the DIA analysts to express their opinion on dangers and special considerations that are not otherwise obvious in the data presented in the first two tiers, and provides a qualitative assessment of targets. Special information should include the following:

E4.1.2.1.3.1. Ground attrition losses of war reserve materiel due to enemy special forces, aerial attacks, or other enemy initiatives against munitions storage depots and supply lines.

E4.1.2.1.3.2. Target regeneration factors that quantify the time

needed for the enemy to repair partially destroyed targets and the number of targets that may be repaired. This should account for the enemy's logistics capability, will, and/or desire to resist.

E4.1.2.2. The categories are, as follows:

E4.1.2.2.1. Maneuver targets are ground-based systems that use maneuver and terrain to increase combat effectiveness, including tanks, personnel carriers, artillery, combat support and service support vehicles, and mobile missile launchers.

E4.1.2.2.2. Air targets are systems that are attacked while in the air. They may be piloted or unpiloted aircraft, including fighters, bombers, support aircraft, helicopters, surveillance aircraft (manned or unmanned), and missiles in flight.

E4.1.2.2.3. Maritime targets are vessels that are attacked while in or on the water. That includes major and minor surface combatants, submarines, ships, patrol boats, amphibious vessels, and merchant marine ships.

E4.1.2.2.4. Infrastructure targets are structures or systems, relatively fixed in location, which support the enemy's theater campaign. Those targets may be civilian, such as power and water distribution systems; military only, such as a tank factory; or dual use, such as a petroleum refinery. These targets also include fixed installations, equipment manufacturing facilities, power production and distribution systems, road and rail networks, and air and seaports that may support the hostile nation during war.

E4.1.2.2.5. Strategic targets are systems or structures that are key to national command and control, decisionmaking, or the survival of that nation's leadership. Denying the use of, controlling, or destroying those targets may be a principle standard for ending war. Strategic targets also include sites that manufacture, store, or launch weapons of mass destruction.

E4.1.2.3. Format for the CINC's PTD should correspond to tier 2 of the OTR,as closely as practical (See enclosure E5).

E4.1.2.4. Combat Requirements for each specified MTW are, as follows:

E4.1.2.4.1. For threat-oriented weapons, although calculation methodology is a Service prerogative, the methodology to determine the total number of combat loads should be explained in detail together with enclosure E3, and the final

requirement should be specified under the CBMR process "as combat loads for each shooter" or as the "total number of each weapon required to counter the assigned threat." The number of combat loads should account for both fully armed platforms and applicable additional combat loads to fill the associated combat Service support structure. That ensures sustainability as well as readiness.

E4.1.2.4.2. For level-of-effort weapons, the requirement must be expressed as "mean daily consumption rates." The expenditures rates must include a specific duration at that rate (intensity) and be consistent with the concept of operations.

E4.1.2.5. Strategic readiness requirements for forces not apportioned to the MTW may be specified as "combat loads for each shooter or total of each weapon required to counter the assigned threat (for a threat-oriented weapon)" or as "mean daily consumption rate linked to a specified duration (for a level-of-effort weapon)."

E4.1.2.6. Services should identify and include a prudent quantity of munitions to ensure that some residual readiness capability remains at conflict termination.

E4.1.2.7. The Services and the USSCOM should sum annual requirements for training and testing that are to be consumed during the POM years. Account for munitions that are required either for training of the force structure to achieve desired readiness levels or to ensure weapon and platform reliability (testing). Current operational requirements include requirements to support peacetime requirements such as explosive ordnance disposal, humanitarian assistance, riot control, security operations and operational projects.

E5. ENCLOSURE 5

"CINC'S PTD FORMAT" AND "CINC'S OPERATION PLAN PHASES"

FIGURE E5.F1. CINC'S PTD FORMAT

CINC's PTD																
Postulated Threat for:	MTW		By Service Share and Type Target													
Outyears:	POM years															
Category	Total from DIA OTR	U.S. Army	+/-	U.S. Navy	+/-	U.S. Air Force	+/-	U.S.Marine Corps-Air	+/-	U.S.Marine Corps-Ground	+/-	Allied	+/-	USSOCOM	+/-	Total Target Apportionment
MANEUVER																
		NOTIONAL DATA														
Tanks	4000	50%	5%	11%	2%	33%	5%	15%	3%	15%	3%	5%	1%	5%	1%	139%
		2000		440		1320		600		600		200		200		**5360**
Armored Combat Vehicles	2500	45%	5%	20%	3%	35%	5%	15%	3%	15%	3%	5%	1%	5%	1%	140%
		1125		500		875		375		375		125		125		**3500**
Artillery	10500	50%	5%	15%	3%	38%	5%	15%	3%	15%	3%	3%	1%	2%	1%	138%
		5250		1575		3990		1575		1575		315		210		**14490**
Air Defense Guns	15400	40%	5%	20%	3%	42%	5%	10%	2%	10%	2%	5%	1%	5%	1%	132%
		6160		3080		6468		1540		1540		770		770		**20328**
S - A Missile TELs	500	20%	3%	35%	5%	50%	5%	15%	3%	15%	3%	0%	0%	0%	0%	135%
		100		175		250		75		75		0		0		**675**
Infantry	1000000	45%	5%	5%	1%	5%	1%	5%	1%	20%	3%	10%	2%	10%	2%	**100%**
		450000		50000		50000		50000		200000		100000		100000		**1000000**
Combat Support Vehicles	25000	22%	5%	35%	3%	55%	5%	15%	3%	15%	3%	5%	1%	5%	1%	152%
		5500		8750		13750		3750		3750		1250		1250		**38000**
Total for this classification=	1057900															102%
		470135		64520		76653		57915		207915		102660		102555		**1082353**

FIGURE E5.F1. CINC'S PTD FORMAT—Continued

CINC's PTD																	
Postulated Threat for:	MTW		By Service Share and Type Target														
Outyears:	POM years																
Category	Total from DIA OTR	U.S. Army	+/-	U.S. Navy	+/-	U.S. Air Force	+/-	U.S.Marine Corps-Air	+/-	U.S.Marine Corps-Ground	+/-	Allied	+/-	USSOCOM	+/-	Total Target Apportionment
AIR	Total from DIA OTR															
S-S Missiles - Deployed																
Bombers																
Fighters / Interceptors																
Support Aircraft																
Helicopters																
RPV/UAV																
Transports																
Total for this classification=																
MARITIME	Total from DIA OTR															
Major Surface Combatants																
Minor Surface Combatants																
Amphibious Vessels																
Support Ships																
Submarines																
Cruise Missiles Deployed																
Cruise Missiles TELS																
Total for this classification=																

FIGURE E5.F1. CINC'S PTD FORMAT—Continued

CINC's PTD																	
Postulated Threat for:	MTW		By Service Share and Type Target														
Outyears:	POM years																
Category	Total from DIA OTR	U.S. Army	+/-	U.S. Navy	+/-	U.S. Air Force	+/-	U.S.Marine Corps-Air	+/-	U.S.Marine Corps-Ground	+/-	Allied	+/-	USSOCOM	+/-	Total Target Apportionment
INFRASTRUCTURE	Total from DIA OTR															
Airfields																
Bridges and Tunnels																
Conv. Wpns. Prod. & Storage																
CSS Logistics Bases																
Manufacturing Facilities																
Petroleum Distribution Nodes																
Commercial Port Facilities																
Ship Yards																
Power Production																
Power Distribution																
Rail Networks & Nodes																
Road Choke Points																
Theater Air Defense Sites																
Radar Sites - EW & GCI																
Harden Artillery Sites																
Under Ground Facilities																
Total for this classification=																

FIGURE E5.F1. CINC'S PTD FORMAT—Continued

CINC's PTD																
Postulated Threat for:	MTW	By Service Share and Type Target														
Outyears:	POM years															
Category	Total from DIA OTR	U.S. Army	+/-	U.S. Navy	+/-	U.S. Air Force	+/-	U.S.Marine Corps-Air	+/-	U.S.Marine Corps-Ground	+/-	Allied	+/-	USSOCOM	+/-	Total Target Apportionment
STRATEGIC	Total from DIA OTR															
Ballistic Missile Sites																
Leadership Sites																
National C3I Nodes																
WMD Production & Storage																
Space Launch Facilities																
Total for this classification=																
TOTAL OF ALL CLASSIFICATIONS=																
(Numbers are ficticious for illustration only.)																

FIGURE E5.F2. CINC'S OPERATION PLAN PHASES

THREAT CATEGORY[1]			I	II	III	IV	etc.	Total[2]
Maneuver								
Air								
Maritime								
Infrastructure								
Strategic								

[1]Equals CINC's Total Target Apportionment

[2]# or %